WHAT IS CLAIMED IS:

1. An optical data storage device comprising:
a substrate having oppositely facing first and second surfaces;
a first metal/alloy layer overlaying the first surface of the substrate, wherein the first metal/alloy layer comprises tin, antimony and an element selected from the group consisting of indium, germanium, aluminum, and zinc, and;
a first dielectric layer overlaying the first metal/alloy layer, wherein the first dielectric layer comprises silicon oxinitride, wherein the first metal/alloy layer is positioned between the substrate and the first dielectric layer .

2. The optical data storage device of claim 1 further comprising:
a second metal/alloy layer overlaying the second surface of the substrate, wherein the second metal/alloy layer comprises tin, antimony and an element selected from the group consisting of indium, germanium, aluminum, and zinc, and;
a second dielectric layer overlaying the second metal/alloy layer, wherein the second dielectric layer comprises silicon oxynitride, wherein the second metal/alloy layer is positioned between the substrate and the second dielectric layer.

3. The optical data storage device of claim 1 wherein the first metal/alloy layer has a cross-sectional thickness between 40nm and 125nm.

4. The optical data storage device of claim 1 wherein the first dielectric layer has a cross-sectional thickness between 20nm and 120nm.

5. The optical data storage device of claim 1 wherein the first dielectric layer has a cross-sectional thickness of approximately 60nm and the first metal/alloy layer has a cross-sectional thickness of approximately 85nm.

6. The optical data storage device of claim 1 wherein the substrate comprises a rigid material.

7. The optical data storage device of claim 1 wherein the metal/alloy layer comprises $Sb_{70}Sn_{15}In_{15}$.

8. The optical data storage device of claim 1 wherein the first metal/alloy layer is formed using a sputtering technique.

9. The optical data storage device of claim 1 wherein the first metal/alloy layer is formed using a vapor deposition technique.

10. The optical data storage device of claim 1 wherein a real part of refractive index for the first dielectric layer is between 1.4 and 2.0.

11. The optical data storage device of claim 1 wherein the first surface of the substrate is grooved, wherein grooves of the first surface define raised surface portions, recessed surface portions, and side walls therebetween.

12. The optical data storage device of claim 1 wherein the first metal/alloy layer comprises a grooved surface, wherein grooves of the first metal/alloy layer define raised surface portions, recessed surface portions, and side walls therebetween, wherein the raised surface portions are configured to store optical data.

13. A method comprising:

forming a first metal/alloy layer overlaying a first surface of a substrate wherein the first metal/alloy layer comprises tin, antimony and an element selected from the group consisting of indium, germanium, aluminum, and zinc, and;

forming a first dielectric layer overlaying the first metal/alloy layer, wherein the first dielectric layer comprises silicon oxynitride, wherein the first metal/alloy layer is positioned between the substrate and the first dielectric layer.

14. The method of claim 13 further comprising:

forming a second metal/alloy layer overlaying a second surface of the substrate, wherein the second metal/alloy layer comprises tin, antimony and an element selected from the group consisting of indium, germanium, aluminum, and zinc, and;

forming a second dielectric layer overlaying the second metal/alloy layer, wherein the second dielectric layer comprises silicon oxynitride, wherein the second metal/alloy layer is positioned between the substrate and the second dielectric layer.

15. The method of claim 13 wherein the first metal/alloy layer has a cross-sectional thickness between 40nm and 125nm.

16. The method of claim 13 wherein the first dielectric layer has a cross-sectional thickness between 20nm and 120nm.

17. The method of claim 13 wherein the substrate comprises a rigid material.

18. The method of claim 13 wherein the metal/alloy layer comprises $Sb_{70}Sn_{15}In_{15}$.

19. The method of claim 13 wherein the first metal/alloy layer is formed using a sputtering technique.

20. The method of claim 13 wherein a real part of refractive index for the first dielectric layer is between 1.4 and 2.0.

21. An optical data storage device comprising:

a substrate having oppositely facing first and second surfaces;

a first metal/alloy layer overlaying the first surface of the substrate, wherein the first metal/alloy layer comprises tin, antimony and indium, and;

a first dielectric layer overlaying the first metal/alloy layer, wherein the first dielectric layer comprises silicon oxynitride, wherein the first metal/alloy layer is positioned between the substrate and the first dielectric layer .